



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/888,306	06/22/2001	Marufur Rahim	1929.EEM	9554

7590 04/09/2004

Charles W. Almer
NATIONAL STARCH AND CHEMICAL COMPANY
10 Finderne Avenue
Bridgewater, NJ 08807-0500

EXAMINER

WILLS, MONIQUE M

ART UNIT PAPER NUMBER

1746

DATE MAILED: 04/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/888,306

Applicant(s)

RAHIM ET AL.

Examiner

Wills M Monique

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 19-29 is/are rejected.
- 7) ☒ Claim(s) 18 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

The Office Action is responsive to the Amendment filed January 14, 2004. The following rejections have been overcome in light of Applicant's amendments:

- Claims 1 and 21-23 under 35 U.S.C. 102(b) as being anticipated by Kaltenbach et al., U.S. Patent 4,263,352
- Claims 1 and 21-23 under 35 U.S.C. 102(b) as being anticipated by Hazan et al. U.S. Patent 4,042,478
- Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Savin U.S. Patent 5,677,367 in view of Taylor et al. U.S. Patent 6,395,459.
- Claims 3-20 & 23-29 under 35 U.S.C. 103(a) as being unpatentable over Savin U.S. Patent 5,677,367 as applied to claim 1 above, in view of Binns et al. U.S. Patent 6,287,377 and further in view of Anderson et al. U.S. Patent 6,610,777.

The following new rejections have in light of Applicant's amendments:

- Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 1746

- Claims 1, 3-5, 7-8, 10-14, 17, 20 & 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Nickle et al. U.S. Patent 5,166,254.
- Claims 1, 3-9, 15, 16, 21 & 24-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Savin U.S. Patent 5,677,367 further in view of Albers U.S. Patent 4,352,898.
- Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nickle et al. U.S. Patent 5,166,254 as applied to claim 1, above, and further in view of Shepherd U.S. Patent 6,423,773.
- Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nickle et al. U.S. Patent 5,166,254 in view of Shepherd U.S. Patent 6,423,773 and further in view of Esso Standard, FR 1485507.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 1746

The term "partially alkylated melamine with higher imino group" is of uncertain meaning rendering the claim vague and indefinite. It is unclear as to what type and what amount of imino group has to be employed. The specification, at page 7, lines 16-18, describe company designators such as, C-327, C-324, C-325 ect..., as examples of the melamine material. What materials do the company designators include?

Claim Interpretation

The examiner assumes that any partially alkylated melamine has a "higher imino group". For example, alkylated melamine formaldehyde is assumed to have a "higher imino group".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-5, 7-8, 10-14, 17, 20 & 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Nickle et al. U.S. Patent 5,166,254.

Art Unit: 1746

Nickle teaches a water based coating composition formed of an acrylic latex (abstract). With respect to claim 1, the coating dispersion comprises carbon black (col. 11, lines 25-30), a styrene acrylic binder (col. 5, lines 58-65) and melamine cross linking agent (col. 11, lines 45-50). With respect to claims 3 & 4, the ratio of carbon black to binder is in the range of about 1 to 1 (col. 3, lines 5-10). With respect to claim 5, the dispersion has a water content between about 30 to about 90% by weight (col. 3, lines 1-5). With respect to claims 7, 8 & 10, the dispersion additionally contains a surfactants in and amount of 2% by weight (col. 11, lines 20-30). With respect to claim 11, the melamine crosslinking agent is an alkylated melamine formaldehyde (abstract). With respect to claims 12 and 13, the coating dispersion contains a second cross-linking agent of carbodiimide in an amount of 5% by weight (col. 6, lines 60-65). With respect to claim 14, the coating dispersion further comprises a catalyst of amine salt of para-Toluene Sulfonic Acid (col. 7, lines 35-40). With respect to claim 17, the dispersion contains styrene and acrylic having a styrene/acrylic ratio of 1, when acrylic and styrene are employed at 25% (col. 5, lines 60-68). The instant claims are anticipated by the prior art set forth.

With respect to claims 20, the claim is a product-by-process claim, that require curing the polymer at a temperature ranging form about 100 to 250 Co for about 15 seconds to about 16 minutes. Even though product - by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the

Art Unit: 1746

product in the product - by - process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 227 USPQ. In the instant case, even though the coating dispersion was made by different processes, claims 20 is unpatentable because it appears that the final product made by Nickle is the same as the subject invention, unless Applicant's can show that the process materially changes the final product.

The limitation in claim 22, with respect to the resistance of the protective film formed by the coating dispersion not being more than twice the initial value after exposure of the film to a 40% KOH solution for a period of 72 hours at 80°C , is considered to be an inherent property of the coating dispersion as set forth in the prior art, because Nickle employs the same coating dispersion set forth by Applicant . Further, "Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,3-9,15,16, 21 & 24-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Savin U.S. Patent 5,677,367 further in view of Albers U.S. Patent 4,352,898.

With respect to claim 1, Savin teaches a graphite-containing cathodic coatings (col. 16, lines 60-68) comprising: 20 to 30% of an epoxy resin (col.11, lines 35-45); 10-15% graphite (col.11, lines 35-45); and a melamine crosslinking agent (col. 15, lines 20-35). With respect to claims 3 & 4, graphite as a proportion of binder is 42%, embracing a graphite to binder ratio in the range of about 1 to 4. With respect to claim 6, graphite is present in an amount of 4 to 20% (abstract). With respect to claims 7-9, the coating comprises a wetting agent in an amount of 0.1 to 1% by weight (col. 15, lines 60-68). With respect to claim 21, the coating has a minimum conductivity of 3 ohms/cm² (col. 22, lines 40-50).

Savin is silent to: the coating comprising water (claim 1); a water content between 30 to 90% (claim 5); a viscosity of 50 to 1200cps (claim 15); an epoxy ester acid

Art Unit: 1746

number of 10-100 (claim 16); an alkaline battery, fuel cell or capacitor with the coating of 20 to 200 microns thick (claims 24-29).

Albers teaches that water may be added to epoxy resin coatings to reduce the viscosity of the composition to a level that the composition can easily be applied to the coating surface (col. 7, lines 32-40).

Therefore, the invention as a whole, would have been obvious to one having ordinary skill in the art at the time the instant invention was made, because even though Savin does not teach the coating comprising water, Albers teaches that water may be added to epoxy resin coatings to reduce viscosity of the composition to a level that the composition can easily be applied to the coating surface.

With respect to claim 5, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ about 30 % to 90% of water in the coating since it has been held that discovering optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980). The skilled artisan recognizes that the amount of water directly effects viscosity of the coating, as evidenced by Albers.

With respect to claim 15, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a viscosity of 50 to 1200 cps in the coating since it has been held that discovering optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F. 2d 272, 205 USPQ 215

Art Unit: 1746

(CCPA 1980). The skilled artisan recognizes that viscosity directly effects the coating ability of the dispersion, as evidenced by Albers.

With respect to claim 16, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ an epoxy ester with an acid number of 10 -100 in the coating since it has been held that discovering optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980). The skilled artisan recognizes that acid number directly effects flexibility and solvent resistance in the coating.

With respect to claims 24-29, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a protective coating with the thickness of 2 to 200 microns since it has been held that discovering optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980). The skilled artisan recognizes that thickness directly effect structural integrity of the coating layer.

With respect to claims 25-29, the recitation required an alkaline battery, fuel cell or capacitor, has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See In re Hirao, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and Kropa v. Robie, 187 F.2d 150, 152, 88 USPQ

Art Unit: 1746

478, 481 (CCPA 1951). In the instant case, the composition does not depend on the preamble for completeness.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nickle et al. U.S. Patent 5,166,254 as applied to claim 1, above, and further in view of Shepherd U.S. Patent 6,423,773.

Nickle teaches a coating dispersion comprising a styrene acrylic binder, as described hereinabove.

The reference is silent to a styrene acrylic resin comprising butadiene, wherein the styrene/butadiene ratio is in the range of about 0.1 to about 9.

Shepard teaches that binder combinations such as styrene-butadiene acrylic may be employed to modify the flexibility and toughness of the dried coating (col. 2, lines 40-46).

Therefore, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the instant invention was made, because even

Art Unit: 1746

though Nickle does not teach a styrene-butadiene acrylic binder, Shepard teaches that said combination may be employed to modify the flexibility and toughness of the dried coating.

With respect to the styrene/butadiene ratio in the range of about 0.1 to about 9, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ said ratio, since it has been held that discovering optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980). The skilled artisan recognizes that the amount of styrene and butadiene in relation to the acrylic polymer, directly effects flexibility and toughness as evidenced by Shepard.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nickle et al. U.S. Patent 5,166,254 in view of Shepherd U.S. Patent 6,423,773 and further in view of Esso Standard, FR 1485507.

Art Unit: 1746

Nickle in view of Shepherd teaches that it is conventional to employ styrene-butadiene acrylic binders in coating material, as described hereinabove.

Nickle is silent to butadiene/acrylonitrile binder, comprising a butadiene/acrylonitrile ratio in the range of about 0.01 to about 9.

However, Esso teaches the equivalence of butadiene/styrene acrylic and butadiene/acrylonitrile acrylic as binder materials.

Therefore, the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the instant invention was made because even though Nickle does not teach a butadiene/acrylonitrile binder, Esso teaches that butadiene/styrene acrylic and butadiene/acrylonitrile acrylic are art recognized equivalent materials for binders, and therefore, one having ordinary skill in the art would have substituted one binder for the other.

With respect to the butadiene/acrylonitrile ratio in the range of about 0.1 to about 9, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ said ratio, since it has been held that discovering optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980). The skilled artisan recognizes that the amount of acrylonitrile and butadiene in relation to the acrylic polymer, directly effects flexibility and toughness.

Response to Arguments

Applicant's arguments with respect to claims 1-29 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Monique Wills whose telephone number is (571) 272-1309. The Examiner can normally be reached on Monday-Friday from 8:30am to 5:00 pm.

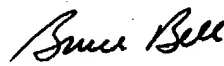
Art Unit: 1746

If attempts to reach Examiner by telephone are unsuccessful, the Examiner's supervisor, Randy Gulakowski, may be reached at 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mw

03/31/04


BRUCE F. BELL
PRIMARY EXAMINER
GROUP 1746